



# UNITED STATES PATENT AND TRADEMARK OFFICE

*Sr*  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,822	06/07/2000	Tatsuya Kubota	450108-4457.1	9634
20999	7590	04/04/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			NGUYEN, HANH N	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/589,822

Applicant(s)

KUBOTA ET AL.

Examiner

Hanh Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-122 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 68-71, 91, 92 and 120-122 is/are rejected.
- 7) ☒ Claim(s) 13-67, 72-90 and 93-119 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claim 12 is objected to because of the following informalities: “descrambling said data elements” on line 7 should be changed to “scrambling said data elements” for consistency to the description on page 14, lines 4-6 in the specification. Appropriate correction is required.

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The limitation “scramble key generation means for generating a scramble key corresponding to one or more data elements” of claim 2 repeats the limitation in claim 1.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 120 recites the limitation "a scramble key" in line 11. There is insufficient antecedent basis for this limitation in the claim.

In claim 120, is “a scramble key” in line 11 referred to “a scramble key” in line 7 above ?.

Claims 68, 70, 71 and 92 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 68, it is not clearly stated how the “and/or” on line 7 is defined. Claims 70, 71 and 92 have similar problems.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1-7 are rejected under 35 USC 102(e) as being anticipated by Hirose(RE38,529 E).

In claim 1, 3 and 4, Hirose discloses a data multiplexing device (broadcasting station 3, fig.1) comprising multiplexing circuits 12, 15 and 17 as shown in fig.3) which multiplexes and transmits transport stream packets of program data consisting of a plurality of data elements (multiplexing and transmitting video signal, audio signal and newspaper data, col.6, lines 15-45, wherein newspaper data is television/radio program, col.5, lines 20-22) constructed in the form of transport stream packets (data is transmitted in predetermined packet, col.7, lines 33-35), said

device comprising: a scramble key generation means for generating a scramble key corresponding to each of said data elements ( information unit scramble key generates a scramble key corresponding to selected video/audio data (col.5, lines 25-40), and a scramble means for scrambling the corresponding transport stream packet of data element by using a scramble key generated by the scramble key generation means (scramble processing unit 27 selectively scrambles the data of video/audio signal by using a predetermined scramble key generated from the information unit scramble key, see col.5, lines 25-40).

In claim 2, Hirose discloses the scramble key generation means generates a scramble key corresponding to one or more data elements among the plurality of data elements constituting the program (information unit scramble key generates a scramble key corresponding to selected video/audio data (col.5, lines 25-40).

In claim 5, as described by Hirose in parent claim 5, it would be obvious in Hirose that the scramble means searches for each scramble key for scrambling said transport stream packet by using a correspondence table which shows packet identification codes for said transport stream packets and their corresponding scramble keys.

In claims 6 and 7, Hirose discloses data multiplexing device comprises a first encryption means for enciphering said scramble key with a work key and multiplexes said enciphered scramble key with said transport stream packet to transmit it ( fig.3 discloses encryption circuit 11 that encrypts scramble key, common key, receiver ID and contract content and outputs these information as related information to mux 12, see col.6, lines 14-20).

In claim 120, Hirose discloses, in Fig.5, a data reception device for receiving multiplexed data obtained by multiplexing transport stream packets of program data consisting of a plurality

of data elements constructed in the form of transport stream packets ( receiver apparatus, see fig.5), said data reception device comprising a scramble key extract means for extracting from the multiplexed data a scramble key corresponding to each data element (newspaper data/relevant information separating circuit 81 separates relevant information to decoding circuit 82 which decodes the transfer scramble key transmitted, see col.8, lines 45-65), and a descramble means for descrambling said transport stream packet for each data element contained in the multiplexed data by using a scramble key extracted by the scramble key extract means ( data descrambler 87 uses the decoded scramble key to descramble newspaper data (video&audio data) supplied from separating unit 81. In other words, the newspaper data scrambled in data scrambler 14 of fig.3 is descrambled by the data descramble 87, col.9, loines 15-25).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 USC 103(a) as being unpatentable over Hirose (RE38,529 E) in view of Katta et al. (Pat. 5,706,346).

In claim 8, Hirose discloses a data multiplexing device ( broadcasting station 3, fig.1) comprising a plurality buffer memories which store a plurality of packet data strings constituting a plurality data elements ( information storage 26 comprising information units 1-N storing packets constituting newspaper data, col.5, lines 13-22); a multiplexing means which time-

Art Unit: 2662

division multiplexes the plurality of packet data strings (fig.4 discloses audio data 1-4 are time multiplexed in a frame of 1ms, transmission rate is 2,048 M bps, col.6, lines 60-67) to provide an output by sequentially time-division switching the buffer memories with said switch means , Hirose does not disclose a multiplexing means having a switch means for switching the buffer memories; sequentially switching the buffer memories with the switching means; and a switch control means which selects, according to an input rate for said packet data strings, said plurality of buffer memories switchable by said switch means.

Katta et al. discloses, in Fig.1 A, a switching means 4 for outputting signal from buffer 2 (a switch means for switching a buffer memory, col.6, lines 37-50). Katta et al. further discloses a switch control means which selects said plurality of buffer memories switchable by said switch means (fig.8A discloses scramble position detector 19 transmits a control signal to switch 23 so that a buffer 20 is selected, see col.17, line 52 to col.18, line 5). Therefore, it would have been obvious to one ordinary skilled in the art to modify the Hirose by applying the teaching of Katta et al. in order to sequentially switch buffer memories under control signal from the switch control means.

Claims 9-11 are rejected under 35 USC 103(a) as being unpatentable over Hirose (RE38,529 E) in view of Katta et al. (Pat. 5,706,346), and further in view of Hamilton et al.( Pat. 5,579,055).

In claims 9-11, as described in parent claim 8, Hirose discloses newspaper data stored in storage 26 are selected to be scrambled ( desired video/audio in buffers is selected, see col.5, lines 25-40. Hirose does not disclose the switch control means switchably controls said switch

Art Unit: 2662

means to exclude buffer memories for buffering lower priority information comprising EMM data, EPG data among said plurality of buffer memories, when said input rate is higher than a reference rate. Hamilton discloses EPG database manager 44 ( switch control means) stores received EPG data into EPG database 46 for later recall (exclude lower priority buffer memory, see col.9, line 65 to col.10, line 5). Therefore, it would have been obvious to one ordinary skilled in the art to modify the Hirose 's system by applying the teaching of Hamilton in order to exclude lower priority buffer memories storing EPG and EMM data.

Claims 12 and 68-71 are rejected under 35 USC 103(a) as being unpatentable over Hirose (RE38,529 E) in view of Yoshikawa et al. (Pat. 6,249,532 B1)

In claims 12 and 68-71, Hirose discloses a program distribution system for distributing a program consisting of a plurality of data elements, the program distribution system comprising: subscriber authorization system for generating a scramble key to be used for scrambling said data elements contained in the program for each of said data elements ( information unit scramble key generates a scramble key corresponding to selected video/audio data for scrambling by scrambling processing unit 27, see col.5, lines 25-40), and a multiplexer system ( transmitter apparatus/broadcasting station in fig.3) comprising: an encoding system (combination of mux 12, encryption circuit 11, data scrambler 14) for encoding each of said data elements contained in said program to generate encoded streams ( related information, fig.3) consisting of encoded data elements for each program (combination of mux 12, encryption circuit 11, data scrambler 14 encoding newspaper data, see col.6, lines 15-25); a multiplexing means for multiplexing the encoded streams generated for each program by the encoding system ( combination of multiplexers 15&17 multiplexes data supplied from the encoder with related information, see



col.6, lines 25-35) and a scramble means for selectively scrambling each of the encoded data elements contained in said multiplexed stream based on said scramble key generated by the subscriber authorization system (scramble processing unit 27 selectively scrambles the data of video/audio signal by using a predetermined scramble key generated from the information unit scramble key, see col.5, lines 25-40). Hirose does not disclose a subscriber management system for managing subscribers' subscriptions for each program or data element.

Yoshikawa et al. discloses, in Fig.1A, a bill check circuit 114 ( subscriber management system) that produce billing information for program reception fee on the basis of program information, (see col.8, lines 32-36 & Abstract). Therefore, it would have been obvious to one ordinary skilled in the art to modify the Hirose by applying the billing circuit 114 of Yoshikawa et al. in order to manage billing for programs broadcasted to subscriber.

In claims 121 and 122, as described by the parent claim 120, Hirose discloses a decoder 82 (fig.5) that decodes the scramble key by using the relevant information ( a first decryption means for deciphering said enciphered scramble key extracted by said scramble key extract means by using a work key received along with said multiplexed data). Col.8, lines 45-60.

In claim 91 and 92, the subject matters of this claim have been disclosed in claims 1, 12, 68-71 and 120. Therefore, it is not necessary to repeat the claimed limitations.

#### ***Allowable Subject Matter***

Claims 13-32, 33-67, 72-90 and 93-119 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 33, the prior art does not disclose the subscriber authorization system supplies to the multiplexer system said enciphered work key enciphered by said first encryption means and a subscriber identification number for identifying said subscriber as enciphered EMM data, and the subscriber authorization system supplies to said multiplexer system a work key identification number for identifying said enciphered work key enciphered by said encryption means and the scramble key as ECM data.

In claim 13, the prior art does not disclose the subscriber management system generates a work key for enciphering the scramble key, and the subscriber management system supplies to the subscriber authorization system the work key as EMM data.

In claim 72, the prior art does not disclose the scramble key generation step enciphers with a master key a work key used for enciphering the scramble key, the scramble key generation step provides said enciphered work key for identifying said subscriber as enciphered EMM data.

In claim 93, the prior art does not disclose the subscriber authorization system comprises a first encryption means for enciphering a work key used for enciphering said scramble key with a master key, said subscriber authorization system supplies to the multiplexer system an enciphered work key enciphered by the first encryption means for identifying the subscriber as enciphered EMM data.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kubota (Pat. 5,506,902) discloses Data Broadcasting System.

Gammie (Pat. 5,029,207) discloses External Security Module for a television signal Decoder.

Yamashita (Pat. 5,506,903) discloses Digital Multiplex Transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Friday from 8AM to 5PM. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**HANH NGUYEN**  
**PRIMARY EXAMINER**